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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|----------------------|------------------|
| 09/891,616 | 06/27/2001 | Fredrick L. Linton | 6.30.3218 (LBT069US) | 8843 |

7590 05/30/2003

Paul Grandinetti
Levy & Grandinetti
Suite 1401
1725 K Street, N.W.
Washington, DC 20006-1401

EXAMINER

SCHLAK, DANIEL K

ART UNIT

PAPER NUMBER

3653

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/891,616 | LINTON, FREDRICK L. | |
| | Examiner | Art Unit | |
| | Daniel K Schlak | 3653 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 5 is objected to because of the following informalities:

The first occurrence of the word "is" in line 2 should be changed to "are/is" to agree with the "and/or" nature of the subject of the verb. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 4 recite the limitation "said selected article" in line 2, respectively. There is insufficient antecedent basis for this limitation in the claim.

Claims 3 and 4 recite the limitation "said selected beverage container" in line 2, respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said selected article" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said selected beverage container" in line 3. There is insufficient antecedent basis for this limitation in the claim.

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Claim 5 recites the limitation "said stream of selected articles" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said stream of selected beverage containers" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "said article" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "said beverage container" in line 2. There is insufficient antecedent basis for this limitation in the claim.

For all the above recitations discussed which lack antecedent basis, Applicant is reminded that a multiply dependent claim invokes, in the alternative, a single one of the multiple parent claims. Thus, if one were to read one of these claims as comprising explicitly all of the recitations of claim 1, then the "said selected beverage container" recitations are without antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6, 8-10, 12, 14, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,041,910 to Avery et al.

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Avery teaches a device and method for diverting an article selected for removal from a stream of articles traveling along a pathway on a conveyor wherein a servo motor is used to rotate an article deflector member located adjacent the pathway into the pathway to contact and controllably sweep an article from the stream, and rotatable out of the pathway to allow subsequent articles to continue traveling along the pathway.

The servo motor of Avery is run by a synchronous control system, and is thus a synchronous motor. Any motor run by a synchronous control system can broadly be interpreted as a synchronous motor.

In Avery, at least some of the articles will be struck at adjacent to and just below their centers of gravity. The degree and/or speed of rotation is/are variable. Certainly the deflector doesn't reach its deflecting velocity instantaneously.

The signal to which the deflector responds originates from a sensing device which has identified a specific condition. A bracket secures the deflecting device to the conveyor.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2,945,588 to Fenn, in light of US 4,836,387 to Cottrell.

Fenn teaches a device and method for diverting bottles by controllably sweeping them from a conveyor by locating a deflector member, rotating it into a pathway, contacting the bottles, removing bottles from a stream of bottles, and reversing rotation of said deflector member to remove it from the pathway to allow subsequent non-selected bottles to continue along the pathway.

Bottles are contacted at, or in a zone, immediately adjacent to and below, their centers of gravity. The degree of movement and speed of movement of the deflector are/is variable. The signal to which the deflector responds originates from a sensing device which identifies a specific condition selecting the bottles for rejection.

Fenn utilizes a solenoid motor to drive the deflector. Fenn does not teach a synchronous motor.

Cottrell teaches the use of a stepper motor to operate a "deflector movable between first and second positions and located in a path of movement of the articles to be sorted" (c1, lines 14-16). In the background of the invention, the first paragraph of Cottrell, it is recited that normally deflecting devices rotated by solenoids. Column 3, lines 25-33 of Cottrell, recite "the arrangement shown" (stepper motor driving a deflector) "has the advantage that a single stepping motor can be used to cause a deflector to divert articles into either of the output paths; in apparatus using solenoid-operated deflectors, we previously used two solenoids, one to pull the deflector in each direction. The stepping motor has good reliability and long life and the driving circuits required are inexpensive and simple. Control is effected by a single binary signal and the response is fast (typically 15ms)."

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Column 3, lines 18-21 of Cottrell recite "the stepping motor system described thus gives bi-directional operation without requiring a spring return."

From the above, it is clear that the intent of Cottrell is to replace solenoids with stepper motors.

It is common knowledge, and the Examiner takes Official Notice, that stepper motors are special types of synchronous motors, and in any event are synchronous in nature.

It would be obvious to one of ordinary skill in the art at the time of invention of Cottrell's device to retrofit the bottle sorter of Fenn with Cottrell's concept, replacing the solenoid and spring with the stepper motor of Cottrell, because Cottrell explicitly recites this use environment and specifically singles out solenoid deflector-drives as the obsolete element in sorting systems. Fenn teaches a deflector being driven by a solenoid capable of deflecting articles to a second path, and this is exactly what Cottrell set out to obviate. The advantages are spelled out in Cottrell, and motivation is achieved without any further explanation here by Cottrell's specific obviation of the solenoid in sorting applications where speed is of issue. Anyone looking at Figure 2 of Fenn could easily observe that Fenn would operate optimally by utilizing a faster activator for the deflector. Also given are the advantages of Cottrell's device in longevity and simplicity of operation.

Claims 1, 3-6, and 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,549,272 to Hagan et al. in light of Cottrell.

Hagan teaches a device and method for diverting articles by controllably sweeping them from a conveyor by locating a deflector member, rotating it into a pathway, contacting the articles, removing articles from a stream of articles, and reversing rotation of said deflector member to remove it from the pathway to allow subsequent non-selected articles to continue along the pathway.

Articles are contacted at, or in a zone, immediately adjacent to and below, their centers of gravity. The degree of movement and speed of movement of the deflector are/is variable. The signal to which the deflector responds originates from a sensing device which identifies a specific condition selecting the articles for rejection.

Hagan utilizes a solenoid motor to drive the deflector. Hagan does not teach a synchronous motor.

Cottrell teaches the use of a stepper motor to operate a "deflector movable between first and second positions and located in a path of movement of the articles to be sorted" (c1, lines 14-16). In the background of the invention, the first paragraph of Cottrell, it is recited that normally deflecting devices rotated by solenoids. Column 3, lines 25-33 of Cottrell, recite "the arrangement shown" (stepper motor driving a deflector) "has the advantage that a single stepping motor can be used to cause a deflector to divert articles into either of the output paths; in apparatus using solenoid-operated deflectors, we previously used two solenoids, one to pull the deflector in each direction. The stepping motor has good reliability and long life and the driving circuits required are inexpensive and simple. Control is effected by a single binary signal and the response is fast (typically 15ms)."

Column 3, lines 18-21 of Cottrell recite "the stepping motor system described thus gives bi-directional operation without requiring a spring return."

From the above, it is clear that the intent of Cottrell is to replace solenoids with stepper motors.

It is common knowledge, and the Examiner takes Official Notice, that stepper motors are special types of synchronous motors, and in any event are synchronous in nature.

It would be obvious to one of ordinary skill in the art at the time of invention of Cottrell's device to retrofit the article sorter of Hagan with Cottrell's concept, replacing the solenoid with the stepper motor of Cottrell, because Cottrell explicitly recites this use environment and specifically singles out solenoid deflector-drives as the obsolete element in sorting systems. Hagan teaches a deflector being driven by a solenoid capable of deflecting articles to a second path, and this is exactly what Cottrell set out to obviate. The advantages are spelled out in Cottrell, and motivation is achieved without any further explanation required here by Cottrell's specific obviation of the solenoid in sorting applications where speed is of issue. Also given are the advantages of Cottrell's device in longevity and simplicity of operation.

Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avery.

Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagan in view of Cottrell.

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Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fenn in view of Cottrell.

None of the references teaching the deflector in operation recites adjusting means for the bracket which maintains the deflector system adjacent the conveyor.

It would have been obvious to one having ordinary skill in the art at the time of the invention (of any of the references) was made to make the bracket adjustable, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (ccpa 1954). For any of these references, the desire to strike the articles at the proper height is innate, and easily understood by anyone of ordinary skill in the sorting arts.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A new search has been performed focusing on the synchronous nature of the motor for rotating the deflector. New art is here made of record in light of such recitation.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K Schlak whose telephone number is 703-305-0885. The examiner can normally be reached on Mon-Thurs.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on 703-306 - 4173. The fax phone numbers for the organization where this application or proceeding is assigned are 703-306-4195 for regular communications and 703-306-4195 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308 - 1113.

dks
May 23, 2003


DONALD P. WALSH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600